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[FACILITATOR]

This document will highlight the main usage of the Facilitator ©. It will show the best features of the system and how it can help building fast integration system within shortest time and minimum efforts.

Contents

1. Introduction

This document is prepared to show the main usage of the Facilitator ©. It will provide example of use and how it benefits its owner. The Facilitator © is copy righted for Dhahi Al-Mashifari since 2010.

2. System Specifications

The Facilitator © have the following specifications:

Specification	Description
Operating System	- MS-Windows Server 2000 and later versions. - Linux - Unix
Database Server	Oracle 8i and later
Application Server	Any Java Enterprise Edition (JEE) Platform like: - Oracle Application Server 10g - IBM WebSphere 6.0 and later - Tomcat 5.0 and later
Hard disk space	100 MB more is better.
Best practice used	- N-Tiered Architecture - Fully Object-Oriented - Service Oriented Architecture (SOA).
Interface	- Agency/Entity users use JSP. - Integration users use webservice (WSDL)
Type	Standalone Application Server solution
Main task	Integration between any 2 systems.
Data Encryption	Communicate through Secure Socket Layer (SSL). It can use Self Signed Certificates (SSC).

The Facilitator © can communicate with external system as described into the following diagram:
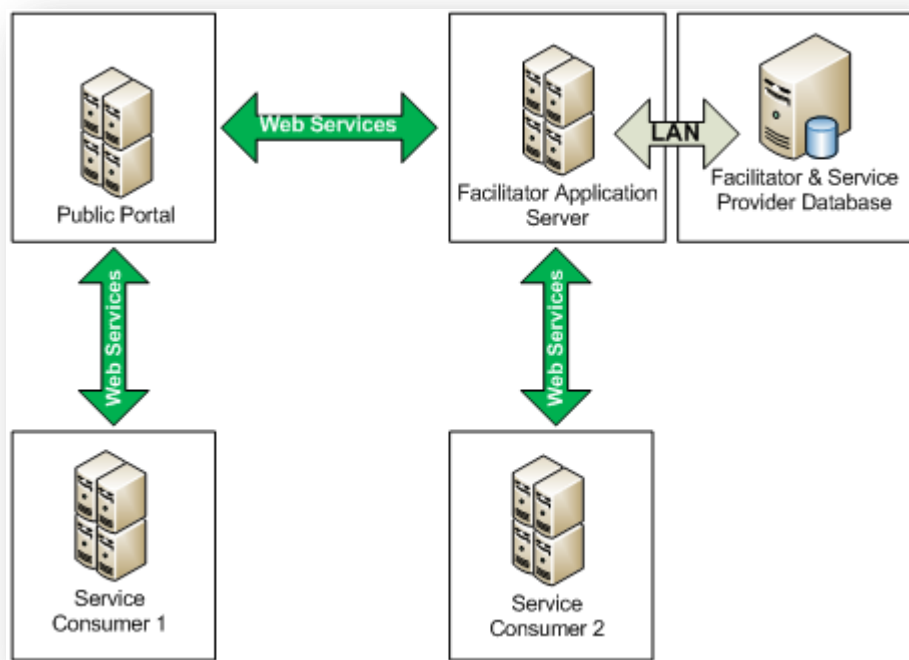
Figure 1 Facilitator Concept

3. Objectives

The eGovernment eServices is every country concern. In the best scenarios the Countries deliver eServices to its citizens and residence through One Stop Shop (OSS). Also some other countries split the eService between many portals or web sites. In both case the systems must integrate with each other to provide the easiest service to the users.

From the description above, each portal, web site, or system is built like an island. When the user would like to be served s/he has to go or provide the required documents from place to another. The Facilitator © is designed to overcome these issues and to strengthen the integration between these portal, web sites, or systems and subsystems. When the Facilitator © designed it is kept in mind there is no need to know or study what is the database structure of these systems.

The Facilitator © will build the required integration and send/receive the information from one system to another. The main activity of the Facilitator is working in the background to make the integration is happening in easy manner. In addition the Facilitator © is ease of use system. It does not require any coding to take place at the eService provider. Nor programmers are required to develop the backend integration units.

The main objective of the Facilitator is to make integration process as easy as possible with the minimum efforts of programming or software development.

4. Copy right

The Facilitator © is copy righted in Sultanate of Oman under registration number 1572 on 23 May 2010. Before the Facilitator © is used in another country the copy right has to take place in that country. Licensing is required to use the Facilitator ©. The owner of the product will ensure this task has completed. Different licensing types are available depending on the usage of the application.

5. Versions

The first version of the facilitator was produced on 4th October 2009. The current version is 2.1.0. This version was released May 2010. All Facilitator © customers will get the latest version along with its updates as far as the licensing is valid.

6. Usage

The best use of the Facilitator © is to deliver eService using OSS. Individuals and businesses will experience the excellent idea of delivering all service through one portal. This portal can be the government portal.

The government portal will interact with the public users and deliver the eServices requests to the backend systems. The backend system will process the request and will be able to update the government portal about the progress.

Also the systems will be able to communicate and integrate with each other. By installing the Facilitator © at both end, producing and consuming eServices and eViews can be obtained with minimal efforts and shortest time. Using the Facilitator © does not required more than few hours to make use of system integrations.

Here The application will work on any Operating System listed in the table above as far as Java and Oracle can be installed on it. Regardless the processer type or the hardware, the only pre-request is having Oracle and JEE software installed on the server(s). Anything else is fine.

7. Primary Keys

The Facilitator © handles all required type of primary/foreign keys even if the required database does not have one. Regardless to the primary key data type, the Facilitator © is able to handle almost any type. All primary keys are auto generated when new records are submitted.

8. Different Environments

The Facilitator © supports Test and Production environments. During the test the information is submitted to the Test environment. Meanwhile during the production the data is submitted to the Production environment. Integrating using the Facilitator © is made as smart as possible.

9. Security Access Logs

There are 2 ways to secure the Facilitator © are: the Facilitator © database level and service consumer level. The Facilitator is stored on a database that is manged by the database access management. Once the Facilitator © internal user login successfully, the Facilitator © allows the external user creation.

Every time external users access the system or consume a service, the Facilitator © record it into Access Log. These access logs can be retrieved in many ways by the Facilitator © Security module interface. Retrieving the external users by their IDs, access time, success and failure attempt, by and their entity is an easy task.

10. Modules

The Facilitator © is module based system. Each module is written to handle specific integration requirement. The eServices is developed to allow eService Consumers to insert their information to specified tables. They will be provided with application reference and the eServices module will provide the follow up status. The eShares is developed to share information between the different entities. The eConsumer is developed to consume eShares views to insert them into eShares consumer tables. The following sections will highlight each one the modules.

10.1. eServices

This service will help the service providers to produce their eService to the external agencies. These services will be consumed by authorized users of the external agencies. These users will be created by the eService provider.

The Facilitator © will enable the eServices producer to pick the database tables that are applicable to the eService. Once the table are identified, the Facilitator © will allow the users to add Applying Business Logics (ABL).

Also the Facilitator © will provide a follow up status for applications submitted by the eServices Module. This follow up can be called to reflect the progress carried internally on the application. The statuses could be in the following:

- Under Progress.
- Approved.
- Rejected.
- Further Studies.

All these statuses will be created by the eService provider and picked and send to the eService consumer by the Facilitator ©.

10.1.1.   Business Logic

These ABLs will ensure the correctness of the data before it has been pushed to the eService provider database tables. These rules can be Basic ABL that depend on one field or Advanced that depend on multiple fields of the required database table.

ABL example:

- Basic :
    - Age of applicant must be 20 years or above.
    - Before applying to renew driving license the applicant must have already a driving license.
    - Applicant cannot apply to renew ID card before 7 days of current expiry date.
- Advanced
    - A student cannot register new university modules if s/he has x number of module failure within specific academic year.
    - A company owner cannot apply to bring expatriate employee if the company reach certain level of expatriate employees.
    - An expatriate company employee cannot apply to renew his immigrations if the company has x number of employees with expired immigrations.

All these rules and more can be easily generated using the Facilitator © without prior studying of the organization database. These rules are very generic and approve they can be producing by the Facilitator ©.

10.2.   eShares

The Facilitator © was developed to share data between the entities. As OSS will make the public users life easier, the eViews will make the data sharing between entities

easier than ever. The Facilitator © enables the eShares provider to pick the required view. It collects the parameters that are required match specific information to be displayed at the eShares consumer.

The Facilitator © build the required webservice to consume the eShares. Data types and related information about the views are handled with special care to reflect the most correct information about the required view. Giving access privilege to eViews consumer is a must step. Only the authorized agencies user will be allowed to access the specified eViews.

10.3.   eConsumer

All eServices and eViews produced by the service provider can be consumed in direct way if the eViews consumer is able to read webservices. It was found that not a lot of software developers are familiar with the webservice technology. Therefore the Facilitator © was enhanced to make eViews consuming as easy process.

The Facilitator © at the eViews consumer will make a webservice call to the eViews at the eViews provider. The eConsumer interface gets the parameters of the provider IP address, the Facilitator port of the provider, username and password of the eServices/eViews consumer. After that it make a webservice call of the Facilitator © provider.

The eConsumer interface displays the data using the Facilitator © interface or insert the retrieved information into the eViews consumer database table. With the Facilitator information consuming is the easiest way at all.

11.   Easy database structure update

Agencies sometimes add new fields to their tables and view to suite their need. After the field adding all integrated applications are need to be visited as the new WSDL file is updated to reflect this change. Integration developers dislike this update when happens as they have to rewrite the coding and import the new WSDL to reflect the changes. This update process requires times to ensure the correctness of the added fields are submitted correctly.

The update process is made easy by the Facilitator ©. The Facilitator © treats it internally so the integration team will be bothered that much and they need to add only one line of code and everything is handled by the Facilitator ©.

12.   Installation Guide

To install the Facilitator © on Oracle database you will need to run a script on Oracle database. Log in to Oracle Database using a username with privilege to create new schemas. Then run the provided script.

To install web base part of the Facilitator © you will need a Java Enterprise Edition Platform in place. The followings installation screens are specifically to Apache Tomcat Application Server. The installation steps are very simple as the followings:
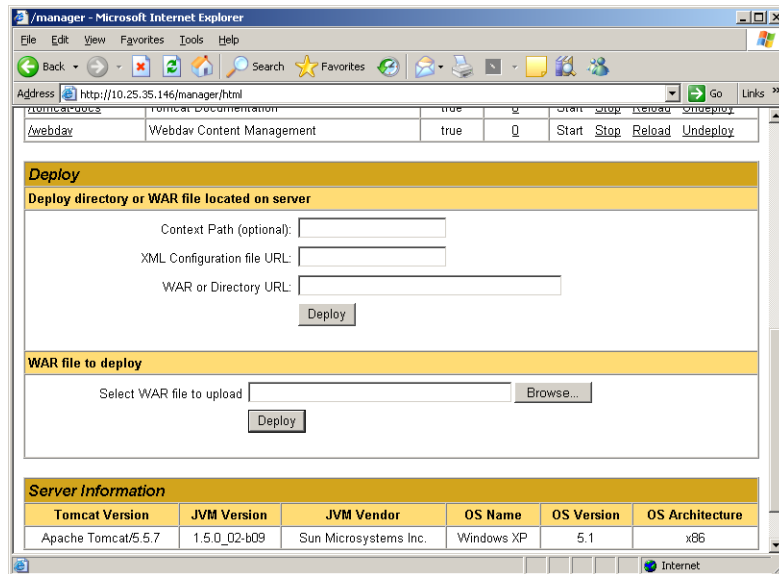
Open the main page of the Application Server, make sure you are using the correct http port (80 or 8080 in most popular servers, 8888 IBM portal, 9080 Oracle and so on).
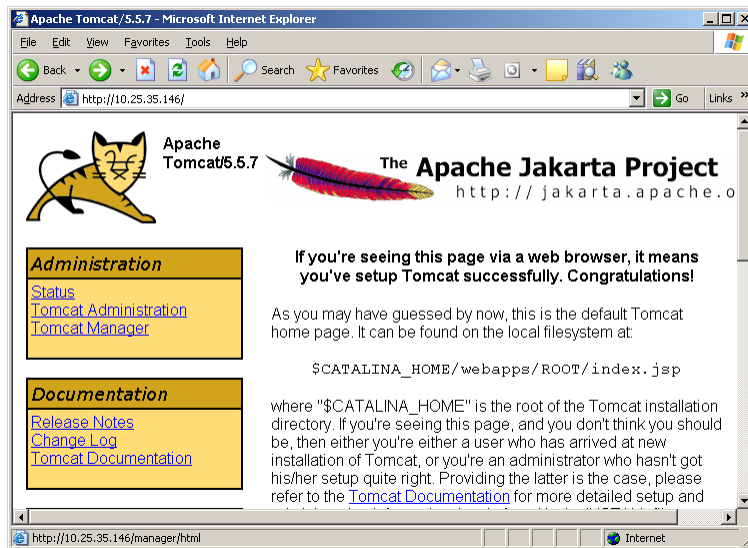

Click on Tomcat Manger link and provide the password
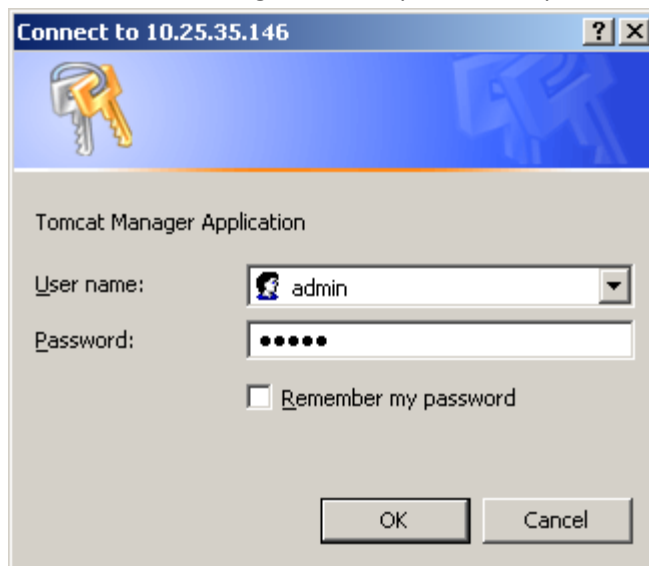
Once you provided the password the application server will provide you with the next screen

The Facilitator has a Web Archive (WAR) file include all what you require to be up and running in a self extractor using the WAR facility. Click on browse button of the **WAR file to deploy** and allocate the WAR file on your local or server machine system file as in the following screen.
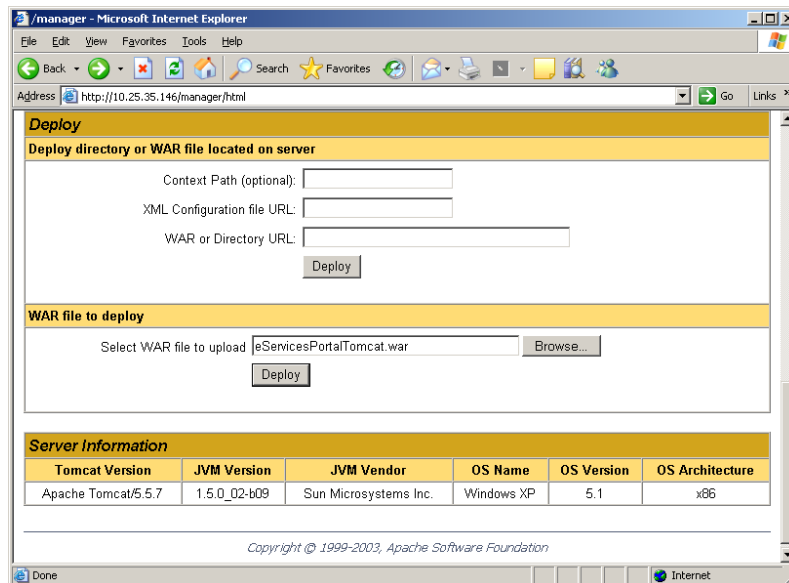
Once the file allocated click on Deploy button. Once the file is deployed to the application server the following screen will indicate the successful message.
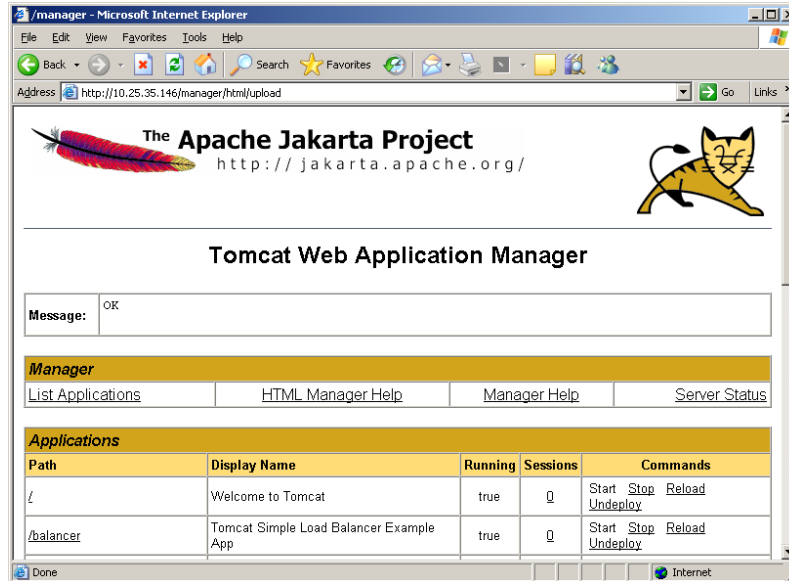
Once don you will be able to load the Facilitator © on the internet browser.

13.   Screen shots

The followings screen shots are to show the look and feel of the system. There separate User Manual to describe each step in details. The User Manual is provided to the Facilitator © owners.

Main Options

Manage Rules

Manage eViews

eServices Name	Grant/Revoke by User	Grant/Rovoke by Entity Group
STD_TO_CHAR	Manage	Manage
DBA_WM_SYS_PRIVS	Manage	Manage
MOSD_TEST	Manage	Manage
STD_TO_CHAR	Manage	Manage
STD_TO_CHAR	Manage	Manage